

REMARKS

Prior to entry of this amendment, claims 1-13 are currently pending in the subject application. Claims 1, 8, 9, and 13 are independent. By this amendment, claims 1, 8, 9, and 13 are amended. Claims 14-17 are added. Support for the amended and new claims may be found in FIG. 3 and in paragraphs [0042]-[0045] of the specification. No new matter is added.

Applicants note with appreciation the Examiner's acknowledgement of applicants' claim for foreign priority and receipt of a certified copy of the priority document.

Applicants note with appreciation the Examiner's acceptance of the drawings filed on September 15, 2003.

Applicants note with appreciation the Examiner's consideration of applicants' Information Disclosure Statements filed September 15, 2003, and February 2, 2005.

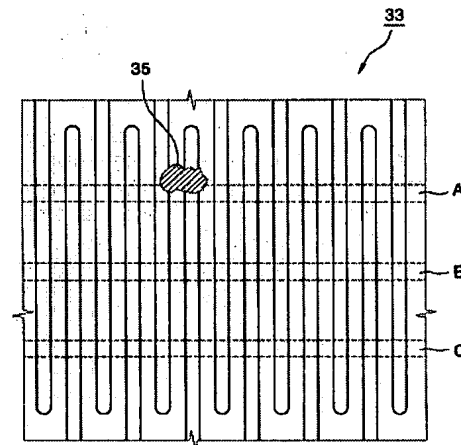
A. Asserted Anticipation Rejection of Claims 1-13

In the outstanding Office action, the Examiner rejected claims 1-13 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,326,618 to Kane et al. ("the Kane et al. reference"). This rejection is traversed for at least the reasons set forth below.

The present invention pertains to a method and apparatus for determining defects by employing Fast Fourier Transform. Claim 1 of the present application recites, in part, "generating data having a frequency from a plurality of portions of the image by the Fast Fourier Transformation method," and "analyzing the generated data from the plurality of portions to determine whether the region is normal or abnormal." Independent claims 8, 9, and 12 also set forth similar recitations pertaining to the portions.

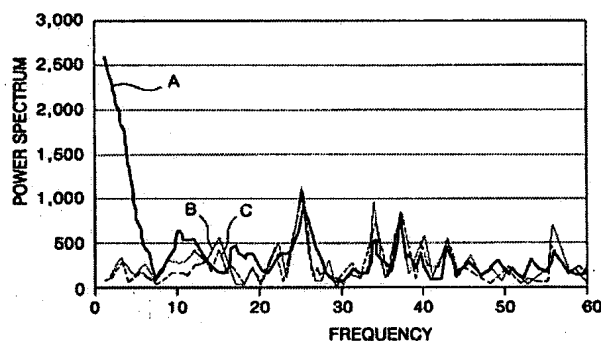
The functioning of the present invention may be better understood by referring to the defect (particle) 35 along line A in FIG. 3 of the application, which is reproduced below.

FIG. 3



A spectrum along each of lines A, B, and C is generated. When the power spectra of lines A, B, and C are compared in FIG. 4, reproduced below, a large anomaly in the power spectrum of A is observed at low frequency, thereby indicating the defect.

FIG. 4



That is, the present invention compares generated data, e.g., spectra, to each other from portions of the same image, i.e., not to an external standard.

The Kane et al. reference pertains to a method of analyzing a semiconductor surface using line width metrology. The Abstract of the Kane et al. reference states: "The calculated scale and shape of the patterned feature are *compared to a template* of a normal patterned

feature having the desired shape and scale.” (Emphasis added). The Kane et al. reference fails to disclose or suggest analyzing data from “a plurality of portions,” such as is set forth in independent claims 1, 8, 9, and 13 of the present application.

At paragraphs 1 and 8 of the Office action, the Examiner refers to column 5, lines 23-40, and to column 12, lines 27-33, of the Kane et al. reference and asserts that these passages disclose “analyzing the generated data to determine whether the region is normal or abnormal.” However, the Kane et al. reference at column 5, lines 23-40, discusses comparing to a “frequency signature template.” Similarly, the Kane et al. reference at column 12, lines 27-33, discusses comparing to “a standard waveform signal,” which is “derived from a scan of a standard wafer.”

As a result, the Kane et al. reference fails to disclose or suggest “generating data having a frequency from a plurality of portions of the image by the Fast Fourier Transformation method,” and “analyzing the generated data from the plurality of portions to determine whether the region is normal or abnormal,” such as is set forth in claims 1, 8, 9, and 13 of the present application. Moreover, the Kane et al. reference fails to disclose or suggest that “the portions are orthogonal to [a/the] minute pattern,” such as is set forth in claims 14-17 of the present application.

The Kane et al. reference thus fails to anticipate each and every element of claims 1, 8, 9, and 13 of the present application. Claims that depend upon claims 1, 8, 9, or 13 are patentable for at least the above reasons.

For the above reasons, applicants submit that the aforesaid rejection is traversed, and reconsideration and withdrawal thereof is respectfully requested.

B. Conclusion

If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In view of the foregoing amendments and remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested.

Respectfully submitted,

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Date: May 18, 2007


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PETITION and
DEPOSIT ACCOUNT CHARGE AUTHORIZATION

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying-papers may also be charged to Deposit Account No. 50-1645.